

MISCELLANEOUS NEW SPECIES OF MASDEVALLIA (ORCHIDACEAE)
FROM BOLIVIA, ECUADOR, PERU AND VENEZUELA

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Masdevallia agaster Luer, sp. nov.

Planta parva caespitosa, foliis coriaceis anguste ellipticis, flore solitario horizontali flavescenti, tubo sepalorum cylindrico leviter arcuato non ventriculoso intus pubescenti partibus libris obtusis caulis recurvatis, pedunculo abbreviato, petalis albis supra basin unguiculatam uncinatis, labello ligulato obtuso.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, unifoliate, 1.5-2 cm long, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, narrowly elliptical, 7-9 cm long, 1.3-1.6 cm wide, the acute apex tridenticulate, narrowly cuneate below into an indistinct petiole 1-2.5 cm long. Inflorescence a solitary flower borne by a suberect to ascending, slender peduncle 1.5-2.5 cm long, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 8-9 mm long; pedicel 9-10 mm long; ovary green, pitted, 6 mm long; sepals deeply connate to form a horizontal, dorsally curved, cylindrical tube without a ventricose dilatation, with only a small mentum below the column-foot, yellow, becoming whitish above the middle, glabrous without, glandular pubescent within on the free surfaces, the 3 tails terete, yellow, recurved, the dorsal sepal narrowly oblong-obovate, 25 mm long, 11 mm wide at the widest, connate to the lateral sepals for 21 mm, the free portion rounded, the obtuse apex contracted into the tail, the lateral sepals 23 mm long, connate for 18 mm, 18 mm across spread out above the sepaline tube, the free portions broadly ovate, oblique, each 10 mm wide, the subacute apices contracted into the tails; petals white, oblong, 7 mm long, 2.75 mm wide, the obtuse apex bilobed-apiculate, with a longitudinal callus along the lower margin ending in an incurved, hook-like appendage just above the shortly unguiculate base; lip white, suffused with purple along the margins, oblong-ligulate, 7 mm long, 2.75 mm wide, the apex obtusely rounded, the disc with a pair of low, longitudinal calli near the middle, the truncate base hinged beneath; column white with purple margins, semiterete, 5 mm long, the foot 3 mm long with an incurved extension.

ETYMOLOGY: From the Greek a-, "without," and gaster, "belly," in reference to the sepaline tube free of any ventricose swelling.

TYPE: ECUADOR: ZAMORA-CHINCHIPE: epiphytic in cloud forest between Loja and Zamora, alt. ca. 1500 m, collected by Walter Teague s.n. cultivated in San Francisco, Calif., flowered in cult. 12 Dec. 1978, C. Luer 3644 (Holotype: SEL).

DISTRIBUTION: Southeastern Ecuador.

This species is readily recognized by the more or less horizontal, arcuate, tubular flowers without a ventricosity. The free portions of the sepals are glandular pubescent within and provided with recurving tails.

Masdevallia ampullacea Luer & Andreetta, sp. nov.

Planta parva caespitosa, pedunculo foliis brevior, flore solitario tubuloso ventricoso intus pubescenti albido flavo-suffuso caudis aureis, petalis oblongis carinatis, labello tricolorato oblongo marginibus revolutis prope medium angulatis.

Plant small to medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, blackish, unifoliate, 10-23 mm long, enclosed by 2-3 close, tubular sheaths. Leaf erect, coriaceous, narrowly elliptical, shortly petiolate, 4-10 cm long including the 1-3 cm long petiole, 1.5-2 cm wide, the subacute apex tridenticulate, the base narrowly cuneate into the petiole. Inflorescence a solitary flower borne more or less transversely by a slender, suberect peduncle 3-4 cm long, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 5-9 mm long; pedicel 8-13 mm long; ovary 4-6 mm long, green; sepals white to light yellow, suffused and veined in yellow to orange, connate into a ventricose tube, the dorsal sepal connate 15-18 mm, the blade 23 mm long, 10-11 mm wide at the widest, pubescent within above the middle, the free portion suborbicular, the rounded apex produced abruptly into an orange, erect, filiform tail ca. 3.5 cm long, the lateral sepals connate 18 mm into a ventricose lamina 21 mm long, 13-15 mm wide above the sepaline tube, pubescent within above the middle, the free portions broadly ovate, the obtuse apices produced into spreading tails similar to that of the dorsal sepal; petals yellow-orange, oblong, 7 mm long, 2.5-3 mm wide, the subtruncate apex more or less twisted with cellular erose margins, with a longitudinal carina above the lower margin ending in an obtuse angle above the base; lip oblong-ligulate, 6 mm long, 2 mm wide, with acute lateral angles near the middle formed by revolute margins, the rounded apex orange, purple around the angled middle, the truncate base white, hinged beneath; column white with purple margins, semiterete, 6 mm long, the foot 3 mm long with a short extension.

ETYMOLOGY: From the Latin ampulla, "a flask or bottle," in allusion to the shape of the sepaline tube.

TYPE: ECUADOR: MORONA-SANTIAGO: epiphytic in cloud forest near Bomboiza, alt. 1500 m, A. Andreetta 16, cultivated in Cuenca, flowered in cult. 18 Aug. 1978, C. Luer 3319 (Holotype: SEL).

DISTRIBUTION: Southeastern Ecuador.

This species is most similar to the Peruvian M. fuchsii Luer. Both are characterized by the yellowish sepaline tubes, but the former is distinguished by the much longer sepaline tails and a narrower lip sharply angled near the middle.

Masdevallia aops Luer & Malo, sp. nov.

Species haec Masdevalliae pallidae (Woolward) Luer persimilis, sed sepalis lateralibus sine maculis et carina petalorum cum ala supra medium et unco crasso supra basin differt.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems blackish, unifoliolate, 8-15 mm long, enclosed by 2-3 loose, tubular sheaths. Leaf erect to suberect, coriaceous, elliptical-spatulate, petiolate, 4-6 cm long including the 1.5-2.5 cm long petiole, 2-2.5 cm wide, the apex obtuse to rounded, tridenticulate, cuneate below into the channeled petiole. Inflorescence a solitary flower borne by an erect, slender, 4-4.5 cm long peduncle, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 10 mm long; pedicel 10 mm long; ovary 7 mm long; sepals glabrous, white, suffused and veined in pale yellow, the dorsal sepal erect, obovate, concave above the middle, 21 mm long, 15 mm wide, connate to the lateral sepals for 4 mm, the rounded apex abruptly produced into an erect, filiform, yellow tail 3.5-4 cm long, the lateral sepals elliptical, oblique, wide-spread, connate 4 mm over a transverse fold beneath the column-foot, 18 mm long, 13 mm wide, the obtuse apices contracted into tails similar to that of the dorsal sepal; petals white, oblong, 6 mm long, 2-2.5 mm wide, the truncate apex tridentate, with a callus along the lower margin, produced into an obtuse wing above the middle and terminating in a thick, incurved, uncinuate process above the unguiculate base; lip erect, white with purple flecks, oblong, 5.5 mm long, 3 mm wide, the rounded apex provided with a purple, central callus protruding beyond the margin, the rounded base hinged beneath; column white marked with purple, semiterete, 5 mm long, the apex toothed, the foot 4 mm long with an incurved extension.

ETYMOLOGY: From the Greek a-, "without," and ops, "eye, or eyed," in reference to the absent "eye-spots" of the lateral sepals.

TYPE: ECUADOR: MORONA-SANTIAGO: epiphytic in cloud forest of the Cordillera Oriental, alt. 1700 m, Apr. 1975, B. Malo s.n., cultivated near Cuenca, flowered in cult. 9 July 1977, C. Luer 1657 (Holotype: SEL).

DISTRIBUTION: Southeastern Ecuador.

Masdevallia aops was included in the distribution and discussion of M. pallida (Selbyana 2:377) because of the similarity of these two species. Recent examination of more living material leads me to the conclusion that the southeastern Ecuadorian population without the dark "eye-spots" on the bases of the lateral sepals is specifically distinct. In addition to the absence of the spots the carina of the petals is produced into a distinct wing above the middle in addition to the thick, incurved, uncinuate process above the base.

Masdevallia dispar Luer, sp. nov.

Inter species sectionis Alaticaulium Krzl. planta mediocri, pedunculo foliis aequilongo, racemo congesto paucifloro floribus successivis, cupula sepalorum non profunda cum synsepalo expanso, petalis oblongis cum carina in callum rotundatum terminata et labello subpandurato antice verrucoso denticulato distinguitur.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliolate, short, 1-2 cm long, enclosed by 2-3 loose, brown sheaths. Leaf erect, dark green, coriaceous, narrowly obovate, 6-10 cm long, 1.0-1.6 cm wide, the subacute apex tridenticulate, gradually narrowed below into an ill-defined, channeled petiole 1-2.5 cm long. Inflorescence a 3- to 5-flowered, congested raceme of successive, single (occasionally 2) flowers borne by an erect to suberect, slender, triquetrous peduncle 6-8 cm long, with a bract at the base, from a node near the base of the secondary stem; floral bracts close, tubular, imbricating, 8-10 mm long; pedicel 13-16 mm long; ovary 5 mm long; dorsal sepal yellow-green, obovate, subverrucose within, 7 mm long, 4 mm wide, connate to the lateral sepals for 5 mm, the triangular free portion acuminate into a slender, erect tail to 3 cm in length; lateral sepals dark purple, more or less spread before the shallow sepaline cup, microscopically verrucose, obovate, oblique, connate 15 mm into a broad lamina 20 mm long, 15 mm wide, forming a shallow mentum, the subacute apices contracted into slender tails up to 12 mm long; petals white, oblong, 5 mm long, 1.5 mm wide, the obtuse apex bilobed, edged in purple, with a longitudinal callus along the lower margin ending in a low, rounded swelling; lip cream dotted with red purple, oblong-subpandurate, 5 mm long, 1.5 mm wide, with obtuse marginal folds above the middle, the suborbicular apical portion revolute, verrucose, denticulate, oblong below the middle, the truncate base hinged beneath; column pale green suffused with rose, semiterete, 5 mm long, the foot 3 mm long with a short extension.

ETYMOLOGY: From the Latin dispar, "different," in allusion to the dissimilarities of the species as compared to others.

TYPE: VENEZUELA: TACHIRA: Quebradas Los Canitos, road to Fundación, alt. 900 m, 1972, collected by R. Mejia s.n., cultivated by O. Arango at Estrella, Colombia, flowered in cult. 2 Oct. 1977, C. Luer 1887 (Holotype: SEL).

DISTRIBUTION: Venezuela.

This species was identified as the Costa Rican Masdevallia lata Rchb. f. in Venezuelan Orchids Illustrated 6:230, 1976, and M. sanctae-fidei Krzl. was erroneously included in the synonymy. The peduncle of M. lata is ascending, thin, round in cross-section, and provided with a bract below the middle. The peduncle of M. dispar is sharply triquetrous with a bract only at the base.

Masdevallia dynastes Luer, sp. nov.

Planta mediocris caespitosa, pedunculo foliis anguste obovatis aequilongo, bractea florali inflata, pedicello cum filamento prominenti, ovario crasso alte cristato, flore solitario carnosio virescenti myriostictato caudis clavellatis aureis, sepalis in cupulam suborbicularem connatis, petalis pentangulatis, labello obtuso subtriangulari ad pedem columnae longissimum curvatum articulato.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, unifoliolate, 1.5-2.5 cm long, clothed by 2-3 close, ribbed sheaths. Leaf erect, coriaceous, narrowly obovate, petiolate, 7-10.5 cm long including the 2-3.5 cm long petiole, 1.0-1.3 cm wide, the subacute apex tridenticulate, the base gradually narrowed into the channeled petiole, the petiole and secondary stem green with purple dots. Inflorescence a solitary flower borne by an erect, slender peduncle 6.5-10.5 cm long with a bract below the middle, from a node low on the secondary stem; floral bract inflated, 6 mm long; pedicel 6 mm long with a filament ca. 4 mm long; ovary 3 mm long, 3 mm wide, with 6 overlapping, undulating crests, green intensely spotted with dark purple; sepals glabrous, fleshy, light green diffusely covered by small dots and dashes of purple-brown, the dorsal sepal concave, subquadrate, 10 mm long, 10 mm wide, connate to the lateral sepals for 7 mm, the free part transversely ovate, the obtuse apex produced into a thick, orange, clavate tail 7 mm long, the lateral sepals more or less oblong, 20 mm long, each 4 mm wide, connate to the column-foot for 7 mm and to each other for 2 mm to form with the dorsal sepal a globose sepaline cup, the subacute apices contracted into tails similar to that of the dorsal sepal; petals greenish white, pentangular, 5 mm long, 1.5-2.5 mm wide, the yellow apex acute, the lower margin with a thickened, obtuse angle above the middle and a larger, acute angle below the middle, the unguiculate base inserted obliquely on the lower portion of the column; lip yellow marked with red-brown, ovate-triangular, 6 mm long, 4.5 mm wide, with marginal folds above the middle forming a suborbicular anterior lobe with revolute margins, the broadly truncate base thickened, deflexed, hinged below to the column-foot; column white, semiterete, 6 mm long, with a curved foot 7 mm long with a short extension.

ETYMOLOGY: Named for the coleopteran genus Dynastes in allusion to the rhinoceros beetle-like appearance of the flowers. Dynastes from the Greek, "a ruler."

TYPE: ECUADOR: BOLIVAR: epiphytic in cloud forest between Guaranda and Balzapamba, alt. ca. 2500 m, Aug. 1978, C. Luer, J. Luer, A. Hirtz & A. Andreetta 3846, cultivated by Hirtz in Quito, flowered in cult. 5 Feb. 1979 (Holotype: SEL; Isotype: JAUM).

ADDITIONAL MATERIAL EXAMINED: ECUADOR: IMBABURA: epiphytic in cloud forest between Otavalo and Apuela, alt. 2250 m, 8 Feb. 1979, C. Luer, J. Luer, R. Escobar & A. Hirtz 3940 (SEL, JAUM).

DISTRIBUTION: Western Ecuador.

The flower of this species appears similar to that of Masdevallia pachyura Rchb. f., but M. dynastes is easily distinguished by the single-flowered inflorescence and the multi-angled petals. The thick, rounded, sepaline cup terminated by three short, thick, protruding tails reminds one of a horned beetle.

Masdevallia graminea Luer, sp. nov.

Inter species sectionis Polystictarum Krzl. pedunculo foliis subduplo longiore, recemo congesto, floribus glabris albis caudis viridibus, ovario non-alato, tubo sepalorum supra mentum profunde angulato et labello trilobato dignoscenda.

Plant small to medium in size, epiphytic, the rhizome ascending or shortly repent to caespitose; roots slender, flexuous. Second-stems slender, channeled, unifoliate, 1.5-2.5 cm long, sheathed by 2-3 close, thin, tubular sheaths. Leaf erect to suberect, coriaceous, long-petiolate, the blade elliptical, 6-12 cm long including the 2.5-5 cm long petiole, 1.5-2 cm wide, the obtuse apex tridenticulate, the base cuneate into the slender petiole. Inflorescence a short, 1.5-2.5 cm long, erect, congested, several-flowered (4-8), distichous raceme borne by an erect to suberect, slender peduncle 12-20 cm long, with 2-3 close, tubular bracts, from a node low on the secondary stem; floral bract translucent, cucullate, acute, ca. 2 mm long; pedicel 1.5-2 mm long; ovary non-winged, green with purple dots, 1.5 mm long; sepals white with infrequent, pale purple dots, the triangular free portions terminated by slender, terete, green tails dotted with purple and 5 mm long, the dorsal sepal oblong, 10 mm long, 3.5 mm wide, connate to the lateral sepals for 7 mm to form a sepaline tube with a sharp, deep, transverse, ventral fold before a rounded mentum, the lateral sepals obovate, 9 mm long 3 mm wide, connate for 5 mm over the transverse fold; petals translucent white marked with purple, oblong-cuneate, 2.75 mm long, 1 mm wide, the truncate apex irregularly toothed, with a longitudinal carina along the lower margin, more pronounced toward the base; lip white marked with purple, rigidly arcuate, ovate-ligulate, 3.25 mm long, 1.5 mm long spread out, 3-lobed, the lateral lobes marginal, erect, ending in acute angles above the middle, the middle lobe rounded; column red-purple, semiterete, 2.5 mm long, with a foot equally long plus a thick, incurved extension.

ETYMOLOGY: From the Latin gramineus, "grass-like," in allusion to the habit of the plant with the grain- or cereal-like head terminating the slender stem.

TYPE: ECUADOR: CHIMBORAZO: epiphytic in cloud forest near Pagma, alt. 2800-3000 m, June 1977, W. Teague s.n., cultivated in San Francisco, Calif., flowered in cult. 15 Dec. 1978, C. Luer 3645 (Holotype: SEL).

ADDITIONAL MATERIAL EXAMINED: ECUADOR: BOLIVAR: epiphytic in cloud forest between Guaranda and Balzapamba, alt. ca. 2500 m, Aug. 1978, C. Luer, J. Luer, A. Andreetta & A. Hirtz 3962, cultivated by A. Andreetta in Cuenca, flowered in cult. 11 Feb. 1979 (SEL).

DISTRIBUTION: Western Ecuador.

This little species of the "polysticta" group may be characterized by the medium-sized, petiolate leaves, the nearly twice-longer erect, slender peduncle bearing a short, distichous raceme of glabrous, white, tubular flowers with green tails shorter than the sepaline tubes. The truncate petals are irregularly toothed, and the lip is rigidly arched with erect, marginal, lateral lobes.

Masdevallia gutierrezii Luer, sp. nov.

Planta parva caespitosa, pedunculo foliis anguste obovatis longiore, flore solitario omnino candido, sepalis in tubum cylindricum connatis caudis aequilongis, petalis ellipticis apiculatis cum callo supra marginem inferum in dentem acutum terminato, labello ligulato bicalloso apice obtuso subverrucoso.

Plant small, epiphytic, caespitose; roots fine, flexuous. Secondary stems slender, unifoliate, 1-1.5 cm long, enclosed by 2 thin tubular sheaths. Leaf erect, coriaceous, narrowly obovate, 4.5-6.5 cm long, 7-8 mm wide, the apex obtuse, tridenticulate, gradually tapered below to a narrowly cuneate, channeled, subpetiolate base. Inflorescence a single, white, glabrous flower borne by an erect to suberect, slender peduncle 7.5-8.5 cm long, with a bract below the middle and another at the base, from a node low on the secondary stem; floral bract tubular, 5-6 mm long; pedicel 8 mm long; ovary greenish white, 2 mm long; sepals connate 5 mm into a cylindrical tube, the free portions gradually narrowed into reflexed, semiterete, white tails, the dorsal sepal narrowly ovate, 20 mm long, 3 mm wide, the lateral sepals connate into a shallowly gibbous lamina 6 mm wide, each lateral sepal 19 mm long, 3 mm wide; petals white, elliptical, 3.5 mm long, 1.5 mm wide, the truncate apex obtusely 2- to 3-dentate, with a low, longitudinal callus along the lower margin ending between the middle and lower thirds in a short point; lip white, yellow above the middle, oblong-ligulate, 4 mm long, 1.5 mm wide, with a pair of low, marginal folds near the middle, subverrucose above the middle, the apex rounded, the base cordate, hinged beneath; column white, semiterete, 3.5 mm long, with a 2 mm long foot ending with a very short extension.

ETYMOLOGY: Named in honor of Jorge Gutierrez of Santa Cruz, Bolivia, co-discoverer of this species.

TYPE: BOLIVIA: SANTA CRUZ: epiphytic near Caranda, 50 km northwest of Santa Cruz, alt. 500 m, L. Moreno and J. Gutierrez s.n., cultivated by J & L Orchids, Easton, Ct., flowered in cult. 25 Nov. 1978, C. Luer 3623 (Holotype: SEL).

DISTRIBUTION: Northeastern lowlands of Bolivia.

This little species may be recognized by the solitary, all-white flowers borne by peduncles a little longer than the leaves. The cylindrical sepaline tube produces three equally long white tails. The apiculate petals bear a small tooth near the lower third. The ligulate lip bears a pair of angles near the middle.

Masdevallia hepatica Luer, sp. nov.

A speciebus ceteris sectionis Alaticaulium Krzl. statura parva, pedunculo foliis aequilongo, racemo congesto paucifloro floribus hepaticis successivis, caule sepali dorsalis crasso, sepalis lateralibus ecuadatis, petalis oblongis apiculatis et labello ligulato apice subverrucoso tricalloso acuto decurvato dignoscenda.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems abbreviated, 1-1.5 cm long, unifoliolate, enclosed by 2 loose, basal sheaths. Leaf erect, coriaceous, narrowly elliptical, 5-8.5 cm long, 1.0-1.4 cm wide, the subacute apex tridenticulate, narrowly cuneate below into an indistinct, channeled petiole 1-2.5 cm long. Inflorescence a few-flowered (3-4), congested raceme of successive flowers borne by a slender, triquetrous peduncle 7-11 cm long, with a bract at the base, from a node near the base of the secondary stem; floral bracts tubular, imbricating, 5-7 mm long; pedicel 7-8 mm long; ovary 4-5 mm long; sepals glabrous externally, minutely pubescent within, dull reddish brown, yellowish toward the apices, the dorsal sepal oblong, connate to the lateral sepals for 6-7 mm to form a short, cylindrical tube, the free portion triangular, the broad, acuminate apex produced into a thick, forwardly directed tail ca. 1 cm long, the total length of the dorsal sepal 20 mm, 5 mm wide at the widest, the lateral sepals connate 11 mm into a broadly ovate, bifid lamina 18 mm long, 13 mm wide, forming a mentum below the column-foot, the free apices 5 mm long, triangular, subacute; petals yellow, suffused and marked in red-purple, oblong, 6 mm long, 2 mm wide, the apex subacute, apiculate, with a low, longitudinal callus above the lower margin terminating in a low, rounded elevation at the base; lip diffusely covered with red-purple dots, oblong-ligulate, 6 mm long to 7 mm long spread out, 2.25 mm wide, the margins decurved above the middle, the apex lightly verrucose, more or less thickened with 3 parallel calli, acute, revolute, the subcordate base hinged beneath; column yellow, marked with red, semiterete, 5 mm long, the foot 3 mm long with a minute extension.

ETYMOLOGY: From the Latin hepaticus, "liver-colored" (from hepar, "liver"), in reference to the unusual color of the flower.

TYPE: ECUADOR: PASTAZA: epiphytic in felled rain forest trees ca. 20 km east of Puyo, alt. 1000 m, 1977, A. Hirtz s.n., cultivated in Quito, flowered in cult. 16 Feb. 1978, C. Luer 2888 (Holotype: SEL).

DISTRIBUTION: Eastern Ecuador.

Among the "winged-stemmed" species of the genus, Masdevallia hepatica is notable in the small stature and a reddish brown flower with yellow-tipped sepals. Instead of tails the lateral sepals end in subacute angles similar to those of M. brenneri Luer which occurs in the same general vicinity. The subverrucose apex of the lip is acute and revolute.

Masdevallia isos Luer, sp. nov.

Inter species sectionis Alaticaulium Krzl. planta mediocri, pedunculo foliis subaequilongo, racemo congesto paucifloro floribus successivis singularibus, tubo sepalorum mediocri, sepalo dorsali flavo in caudam gracilem acuminato, sepalis lateralibus virescentibus roseo-suffusis in laminam latam connatis caudis viridibus brevioribus, petalis oblongis cum dente crasso obtuso basali, labello subpandurato apice leviter papilloso.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems unifoliolate, 1-2 cm long, mostly concealed by 2 tubular sheaths. Leaf erect to suberect, thickly coriaceous, shiny, narrowly obovate, 8-11 mm long, 1.5-1.7 cm wide, the obtuse apex tridenticulate, gradually narrowed below into an ill-defined, sulcate petiole 1-2 cm long. Inflorescence a 2- to 3-flowered, contracted raceme of successive, single flowers borne by an erect to suberect, triquetrous peduncle 6.5-7.5 cm long, with a bract at the base, from a node near the base of a secondary stem; floral bracts close, tubular, imbricating, 10-13 mm long; pedicel 15-18 mm long; ovary stoutly 3-winged, 3 mm long; dorsal sepal light yellow, obovate, carinate, lightly pusticular within, the total length 25 mm, the width 6 mm, connate to the lateral sepals for 8 mm, the triangular free portion acuminate into a slender, erect tail ca. 1 cm long; lateral sepals green, suffused with rose, obovate, oblique, bicarinate, pusticulate within, connate 13 mm into a broad lamina 17 mm long, 15 mm wide spread out, forming a shallow mentum, the obtuse apices contracted into slender, green tails 7 mm long; petals white, oblong-cuneate, 6.5 mm long, 2 mm wide, the truncate apex obscurely lobed, with a longitudinal callus along both margins, the lower callus ending in a thick, obtuse tooth at the base; lip ivory marked with red-purple, oblong-subpandurate, 7 mm long, 3 mm wide, with obtuse marginal folds above the middle, the apical portion suborbicular, lightly papillose, the margin microscopically irregular, oblong below the middle, the truncate base notched, hinged beneath; column green, suffused with purple, semiterete, 6.5 mm long, the foot 3 mm long with an incurved extension.

ETYMOLOGY: From the Greek isos, "equal, similar," in allusion to the similarity of this species to many others in the section.

TYPE: BOLIVIA: SANTA CRUZ: epiphytic in trees being logged between Samaipata and Vera Cruz, alt. ca. 1000 m, Aug. 1977, Helen Kuhn s.n., cultivated by J & L Orchids, Easton, Ct., flowered in cult. 11 March 1978, C. Luer 2793 (Holotype: SEL).

DISTRIBUTION: Eastern Bolivia.

This species is closely allied to several species of the "winged stem" section (e.g. Masdevallia auropurpurea Rchb. f. & Warsc.), but M. isos may be distinguished by the pastel colors (the lateral sepals are light green suffused with rose instead of mostly dark purple), the proportionately shorter tails of the lateral sepals, and the petals with a longitudinal callus along both margins, the lower one ending in a thick, basal tooth.

Masdevallia jubar Luer & Malo, sp. nov.

Ab Masdevallia lehmannii Rehb. f. species haec inflorescentia congesta, floribus grandioribus glabris non-maculatisque et ab M. ova-avis Luer habitu minore floribus auranticis distinguitur.

Plant medium in size, epiphytic, shortly repent to caespitose, the rhizome more or less ascending; roots slender, flexuous. Secondary stems slender, unifoliate, 2-3.5 cm long, enclosed by 2-3 loose, tubular sheaths. Leaf erect, coriaceous, long-petiolate, the blade elliptical, 8-15 cm long including the 3-8 cm long petiole, 2.5-3.3 cm wide, obtuse and tridenticulate at the apex, cuneate below into the slender, channeled petiole. Inflorescence a congester, 2-3 cm long, several-flowered (6-8), horizontal raceme borne by an erect to suberect, slender peduncle 15-18 cm long, with 3-4 short, evenly spaced, tubular bracts, from a node low on the secondary stem; floral bracts thin, oblique, acute, cucullate, 5 mm long, enclosing the pedicel and ovary; pedicel thick, 2 mm long; ovary 2 mm long, with tall, markedly undulating crests; sepals yellow-orange, unspotted, glabrous except for the minutely erose, free margins, the dorsal sepal suborbicular, deeply concave, 9 mm long, 8 mm wide, connate to the lateral sepals for 4 mm to form a shallow gaping, sepaline cup, the rounded apex contracted into an orange, filiform tail ca. 2 cm long, the lateral sepals elliptical, 9 mm long, 4.5 mm wide, connate basally ca. 3 mm across a transverse fold forming a rounded mentum below the column-foot, the subacute apices contracted into tails similar to that of the dorsal sepal; petals translucent greenish white, oblong, 4 mm long, 1.5 mm wide, the upper margin minutely serrate, the apex tridentate, the middle tooth the longest, with a low, slender, longitudinal keel along the lower margin; lip red-brown, oblong-subpandurate, 5 mm long, 2 mm wide, with lateral folds above the middle, shallowly channeled centrally, the apex convex, obtuse to rounded, the base cordate, hinged beneath; column yellowish white, semiterete, 5 mm long, with a curved foot nearly equally long.

ETYMOLOGY: From the Latin jubar, "sunbeams, splendor," in allusion to the impression of a yellow radiance produced by the compact inflorescence.

TYPE: ECUADOR: PICHINCHA: epiphytic in cloud forest above Chiriboga, alt. 2000 m, 1974, B. Malo s.n., cultivated near Cuenca, flowered in cult. 20 July 1977, C. Luer 1752 (Holotype: SEL).

DISTRIBUTION: Western Ecuador.

This species grows sympatrically with M. ova-avis and is perhaps most closely allied to that species. Although M. jubar is easily recognized by the yellow-orange, unspotted flowers, both species are characterized by short, horizontal, congested racemes. The sepaline tails of M. ova-avis decurve while those of M. jubar spread more or less horizontally in a semicircle. From M. lehmannii, another orange-flowered member of the "polysticta" group, M. jubar may be distinguished by the congested inflorescence of larger, glabrous, unspotted flowers.

Masdevallia nebulina Luer, sp. nov.

Planta parva caespitosa, pedunculo unifloro foliis longipetiolatis aequilongo, flore albido glabro, sepalis in tubum campanulatum cum mentum prominenti connatis caudis flavis aequilongis, petalis unguiculatis cum dente basali grandi retrorso et labello ligulato roseo-stictato.

Plant small, epiphytic, caespitose; roots fine, flexuous. Secondary stems blackish, slender, unifoliate, 1-2 cm long, enclosed by 2-3 close, tubular sheaths. Leaf erect to suberect, coriaceous, long-petiolate, the blade elliptical, 3-5 cm long including the 1.5 to 2 cm long petiole, 9-11 mm wide, the subacute apex tridenticulate, the base cuneate into the slender petiole. Inflorescence a solitary flower borne by a slender, suberect peduncle 5.5-6 cm long with a thin bract below the middle, from a node low on the secondary stem; floral bract white, tubular, 6 mm long; pedicel 7-9 mm long; ovary 3.5 mm long; sepals white, glabrous, the dorsal sepal obovate, carinate, 9 mm long, 4 mm wide, connate to the lateral sepals for 6 mm to form a broad sepaline tube, the rounded, free portion contracted into an erect, slender, yellow tail 9 mm long, the lateral sepals more or less oblong, oblique, 8 mm long, 4.5 mm wide, connate ca. 2.5 mm above a conspicuous mentum formed with the column-foot, the obtuse to rounded apices contracted into tails similar to that of the dorsal sepal; petals white, oblong, 4 mm long, 1.75 mm wide, the truncate apex irregularly and bluntly toothed, the base shortly and narrowly unguiculate below a broad, acute, retrorse tooth from a low, longitudinal callus above the labellar margin; lip white, suffused and flecked with rose, oblong-ligulate, 4.5 mm long, 1.75 mm wide, the margins lightly infolded above the middle, the rose apex more or less rounded, the base subcordate, hinged beneath; column white, semiterete, 3.5 mm long, the foot 2.5 mm long with an incurved extension.

ETYMOLOGY: From the Latin nebula, "mist, or fog," and -inus, "belonging to," in allusion to the cold, misty habitat.

TYPE: BOLIVIA: COCHABAMBA: epiphytic in mossy trees of cloud forest northeast of Cochabamba toward Villa Tunari, alt. 2600 m, 26 Nov. 1978, C. Luer, J. Luer, L. Kuhn & J. Kuhn et al. 3472 (Holotype: SEL).

DISTRIBUTION: Bolivia.

This little species, discovered by Lee Kuhn, was found growing on wet, mossy branches of a montane cloud forest in company with M. hajekii Luer. Masdevallia nebulina was rare in comparison to the abundance of the latter. Masdevallia nebulina is apparently related to M. strumifera Rchb. f., but the former is smaller vegetatively; the mentum of the flower is less conspicuous, the column-foot being shorter than the column itself; and the petals bear a large, basal tooth.

Masdevallia rimarima-alba Luer, sp. nov.

Masdevalliae uniflorae Ruiz & Pavon affinis sed foliis angustioribus, caudis sepalorum crassioribus, petalis late oblongis cum dente basali minimo et labello coccineo differt.

Plant medium in size, presumably epiphytic, caespitose; roots coarse, flexuous. Secondary stems terete, unifoliate, 2-3 cm long, enclosed by 2-3 tubular sheaths. Leaf erect to suberect, coriaceous, narrowly obovate, indistinctly petiolate, 7-11 cm long, 9-10 mm wide, the subacute apex tridenticulate, gradually narrowed below to the slender, channeled base. Inflorescence a solitary flower borne by a slender, erect peduncle 14-16 cm long, with a bract below the middle, from a node low on the secondary stem; floral bract 11-14 mm long; pedicel 20-23 mm long; ovary green, 8-10 mm long; sepals glabrous, white, faintly suffused with yellow toward the bases, lightly veined with rose within, the dorsal sepal ovate-oblong, 17 mm long, 11 mm wide, connate to the lateral sepals for 10 mm into a broad, cylindrical tube, the free portion semi-orbicular, the rounded apex produced into a lobe or less erect, thickened, green tail 10 mm long, the lateral sepals ovate, oblique, connate 10 mm to form a mentum with the column-foot, each 18 mm long, 20 mm wide together, the broadly triangular free portions contracted into thick, deflexed, green tails 8 mm long; petals white, oblong, 8 mm long, 3 mm wide, the apex broadly obtuse to rounded, minutely irregular, with a low, longitudinal callus along the labellar margin ending in a short, subacute tooth at the base; lip pink marked with crimson, oblong, 7 mm long, 3.75 mm wide, the margins reflexed in the upper third to the rounded apex with a small, central, marginal callus, the disc broadly and shallowly sulcate between low, longitudinal calli, the truncate base hinged beneath; column greenish white suffused with rose, semiterete, 6.5 mm long, the foot 4.5 mm long with an incurved foot.

ETYMOLOGY: Named for the local Indian name, rima-rima, applied to M. uniflora plus the Latin albus, "white," in allusion to "the white uniflora."

TYPE: PERU: without locality, imported by J & L Orchids, Easton, Ct., from R. Stumpfle of Lima, flowered in cult. 17 Nov. 1977, C. Luer 2210 (Holotype: SEL).

DISTRIBUTION: Peru.

For the past several years this species has been in cultivation under the name of "the white uniflora." The species known in cultivation as "the pink uniflora" is the Masdevallia uniflora of Ruiz and Pavon which we saw recently in flower at the original locality above Huasahuasi, Peru. White color forms of M. uniflora were observed. The local name for M. uniflora today is still rima-rima as it was two hundred years ago, and as it must have been for untold generations before. The "white uniflora" may be distinguished by narrow, indistinctly petiolate leaves, the yellowish white flowers with thick, green tails, broadly oblong petals with only a minute, basal tooth, and a crimson lip.

Masdevallia syringodes Luer & Andreetta, sp. nov.

Species haec Masdevalliae tubulosae Lindl. persimilis, sed foliis angustioribus, flore minore et labello oblongo-cuneato apice truncato cum carina bifurcata differt.

Plant small, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, unifoliate, 1-2.5 cm long, clothed by 2-3 loose, tubular sheaths. Leaf erect to suberect, coriaceous, very narrowly obovate, 4-9 cm long, 7-8 mm wide, the acute apex tridentate, gradually narrowed below into an indistinct petiole 1.5-3 cm long. Inflorescence a solitary flower borne by an erect, slender peduncle 5-7 cm long, with a bract below the middle, from a node low on the secondary stem; floral bract 6 mm long; pedicel 12 mm long, ovary green, 7 mm long; sepals glabrous, white, connate 11-12 mm into a slender, gently curved, cylindrical tube, the free portions triangular, acute, acuminate into thickened, yellow tails 10-15 mm long, the dorsal sepal oblong, the total length 26 mm, 3 mm wide, the lateral sepals connate into an oblong lamina 8 mm wide, the free portions oblique, the total length 27 mm; petals white, oblong, 4.5 mm long, 1.25 mm wide, the truncate apex tridentate, with a low, longitudinal callus along the labellar margin ending a short distance above the unguiculate base; lip light yellow, oblong-cuneate, 5.5 mm long, 2.5 mm wide at the apex, the disc with a low, longitudinal, central carina bifurcated on the broadly truncate apex, the cordate base hinged beneath; column white, semiterete, 4 mm long, the foot 1.5 mm long with a short, incurved extension.

ETYMOLOGY: From the Greek syringodes, "like a pipe" (from syrinx, "a pipe"), in reference to the slender cylindrical tube.

TYPE: ECUADOR: MORONA-SANTIAGO: epiphytic in cloud forest near Cuyes, alt. 1500-1800 m, March 1978, A. Andreetta & M. Portilla 1704, cultivated in Cuenca, flowered in cult. Feb. 1979, C. Luer 3968 (Holotype: SEL).

DISTRIBUTION: Southeastern Ecuador.

So far, this little species has been discovered but once. It was found without flowers by Mario Portilla at the same time he found Masdevallia portillae Luer. Masdevallia syringodes is allied to the Venezuelan M. tubulosa and the Colombian M. stenantha Lehm. & Krzl., but from both it differs in the smaller flowers with shorter tails and a lip with a bifurcated callus on a broadly truncate apex.

Masdevallia urosalpinx Luer, sp. nov.

Planta mediocris caespitosa, pedunculo foliis ellipticis petiolatis brevior, flore solitario suberecto, tubo sepalorum longissimo ventricoso supra medium valde constricto albido aureo-suffuso intus pubescenti caudis gracilibus longissimis flavis, petalis oblongis carinatis callo basali crasso, labello albo oblongo subacuto supra medium obtusangulato.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, unifoliate, 1.5-2.5 cm long, enclosed by 2-3 close, tubular sheaths. Leaf erect, coriaceous, petiolate, 6-10 cm long including the 2-3.5 cm long petiole, 14-18 mm wide, the apex subacute, tridenticulate, narrowly cuneate below into the slender, channeled petiole. Inflorescence a solitary, suberect flower borne by a slender, suberect peduncle 4-5 cm long, with a bract near the base, from a node low on the secondary stem; floral bract tubular, 10 mm long; pedicel 10-12 mm long; ovary green, 7-8 mm long; sepals white, suffused and veined in orange, glabrous externally, pubescent within above the middle, connate into a ventricose tube 11 mm deep, markedly constricted to 5 mm above the middle before the free portions spread, the dorsal sepal connate to the lateral sepals for 30 mm, narrowly oblong, 37 mm long, 5 mm wide to 14 mm wide at the stoma, the free portion semi-orbicular, the rounded apex abruptly produced into a straight, filiform, reflexed, yellow tail 3.5-4.5 cm long, the lateral sepals connate 35 mm, 37 mm long, 5-6 mm wide below the constriction and 22 mm wide above, the deflexed, free lamina 14 mm long, the obtuse apices contracted into tails similar to that of the dorsal sepal; petals yellowish white, oblong, 8 mm long, 2.5 mm wide, the subacute apex more or less twisted, the lower margin more or less narrowed near the middle, broadly rounded above, with a longitudinal carina along the margin ending in a thick, rounded callus at the base; lip white, oblong-ligulate, 6 mm long, 2-2.5 mm wide, the apex narrowly rounded, with obtuse, marginal angles above the middle, the disc with a low pair of longitudinal calli, the base truncate, hinged beneath; column white with a purple margin, semiterete, 6 mm long, the short foot with an incurved extension.

ETYMOLOGY: From the Greek oura, "tail," and salpinx, "trumpet," in allusion to the trumpet-like sepaline tube with three tails.

TYPE: PERU: HUANUCO: epiphytic in cloud forest between Tingo Maria and Pucallpa, alt. 1700 m, Mar. 1975, J. Kuhn, F. Fuchs et al. s.n., cultivated by J & L Orchids, Easton, Ct., flowered in cult. 7 Nov. 1977, C. Luer 1847 (Holotype: SEL).

DISTRIBUTION: Peru.

This species was first thought by us to be Masdevallia constricta Poepp. & Endl., but M. urosalpinx may be distinguished by the longer sepaline tube suffused and veined in orange, and pubescent within the broadly flared opening. The tube is remarkably constricted above the ventricosity. The lip is obtusely angled above the middle.

Masdevallia verecunda Luer, sp. nov.

Planta mediocris caespitosa, foliis coriaceis obovatis petiolatis, pedunculo ascendenti vel horizontali, flore solitario nutanti, tubo sepalorum campanulato albovirescenti nervatura purpurea, caudis gracilibus deflexis marrononis, petalis oblongis apice tridenticulatis basi cum cornu retrorso, labello cuneato trilobato.

Plant medium in size, epiphytic, caespitose; roots slender, flexuous. Secondary stems slender, channeled, unifoliolate, 1.5-2 cm long, enclosed by 2-3 loose, tubular sheaths. Leaf suberect, coriaceous, narrowly obovate, 5-8.5 cm long, 16-22 mm wide, the rounded apex notched and apiculate, gradually narrowed below into a sulcate petiole 2-3 cm long. Inflorescence a solitary, nutant flower borne by an ascending to sub-horizontal, slender peduncle 4.5-7.5 cm long, with a bract below the middle, from a node low on the secondary stem; floral bract tubular, 6 mm long; pedicel 6 mm long; ovary 6 mm long; sepals glabrous, greenish white, the mid-veins purple, the dorsal sepal obovate, 20 mm long, 11 mm wide, connate to the lateral sepals for 12 mm into a campanulate tube, the free portion triangular, forwardly directed, the subacute apex acuminate into a slender, gently deflexed, maroon tail 3 cm long, the lateral sepals oblong, oblique, connate ca. 9 mm into a broadly cuneate lamina 15 mm long, 22 mm wide spread out, shallowly ventricose, the free portions triangular, subacute, contracted into straight, acutely reflexed tails similar to that of the dorsal sepal; petals white, oblong, 5.5 mm long, 2 mm wide, the apex tridentate, with a longitudinal callus along the lower margin ending in a prominent, retrorse horn just above the shortly unguiculate base; lip white, flecked with rose, cuneate, 6 mm long, 4 mm wide, 3-lobed above the middle, the middle lobe more or less ovate, deflexed, with irregular margins and a longitudinal, purple callus ending at the margin, the lateral lobes triangular, obtuse, the forward margins irregular, the disc with a pair of low, longitudinal calli, the truncate base hinged beneath; column white, suffused with rose, semiterete, 4.5 mm long, the foot 2.5 mm long with an incurved extension 1 mm long.

ETYMOLOGY: From the Latin verecundus, "bashful," in allusion to the nutant flowers.

TYPE: VENEZUELA: ARAGUA: near Choroni, received by Don Richardson 2851 from G. C. K. Dunsterville, cultivated by J & L Orchids, Easton, Ct., flowered in cult. 21 Apr. 1978, C. Luer 2920 (Holotype: SEL).

DISTRIBUTION: Venezuela.

Masdevallia verecunda is characterized by the nodding, bell-shaped, greenish white flowers with a drooping tail from the dorsal sepal. The petals, tridenticulate at the apex, are provided with a retrorse, basal tooth. The wedge-shaped lip is three-lobed above the middle with minutely irregular margins.